UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,118	12/02/2003	Jeffrey J. Fitzgerald	CDPC-P01-003	4402

28120 7590 03/31/2009

ROPES & GRAY LLP
PATENT DOCKETING 39/41
ONE INTERNATIONAL PLACE
BOSTON, MA 02110-2624

EXAMINER	
NGUYEN, PHUONGCHAU BA	
ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
03/31/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/727,118	FITZGERALD, JEFFREY J.	
	Examiner	Art Unit	
	PHUONGCHAU BA NGUYEN	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1-23-9 RCE*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *4-10-8* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Objections

1. Claims 1, 12 and 17 are objected to because of the following informalities: "a return message"(claim 1, line 12; claim 12, line 12; claim 17, line 13) should be changed to ---the return message---. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 5, 7-9, 11-13, 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powers (US2005/0147107 A1) in view of Ogier (US 2002/0012320 A1).

Regarding claims 1, 12 and 17,

Powers (US2005/0147107 A1) discloses a method of improving network availability in a segmented network, comprising the steps of:

periodically transmitting a test message over a plurality of communication links from a source node in communication with a source network segment to a plurality of destination nodes, each of the plurality of destination nodes being in communication with a respective destination network segment (fig.3, steps 200-205 and see 0025 wherein a test cell is transmitted one at a time-thus indicated the periodically test transmission, emphasis added);

generating, for each of the plurality of destination nodes, a return message if the test message is received at the destination node (fig.3, step 210);

Power does not explicitly disclose (1) determining the status of each of the plurality of communication links in response to the return messages generated by the plurality of destination nodes; and (2) transmitting the determined status of each of the plurality of communication links from the source node to each of the plurality of destination nodes that generated ~~a~~ the return message. However, in the same field of endeavor, Ogier (US 2002/0012320 A1) discloses that the link to an existing neighbor is declared to

be downed if no traffic (including Hello messages and ACKs) has been received from the neighbor node within a predetermined time interval, see 0206-0208, (in response to the receipt of ACKs from neighbor node, the link to the existing neighbor is declared to be existed-emphasis added), corresponding to (1); and source node unicastly/broadcastly informing the neighbor nodes the current link state of the network topology, see 0053-0055 & 0113, corresponding to (2). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Ogier's teaching of detecting, updating, and reporting up and down status of each outgoing link to neighbor nodes to Powers' system to updating the existing link state to neighbor nodes with the motivation being to detect the appearance and disappearance of new neighbor nodes in establishing and maintaining connections between nodes (destinations) and server (source).

Regarding claims 2, 18,

Powers does not explicitly disclose wherein the step of determining the status further comprises indicating a fault in one of said one or more paths if

said source node does not receive at least a predetermined number of return messages from said destination nodes in response to a predetermined number of test messages transmitted to said destination nodes.

However, in the same field of endeavor, Ogier discloses that the link to an existing neighbor is declared to be downed if no traffic (including Hello messages and ACKs) has been received from the neighbor node within a predetermined time interval, see 0206-0208. Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Ogier's teaching of detecting up and down status of each outgoing link to neighbor nodes to Powers' system to detecting the existing link state to neighbor nodes with the motivation being to detect the appearance and disappearance of new neighbor nodes in establishing and maintaining connections between nodes (destinations) and server (source).

Regarding claims 3, 8, 19,

Powers does not explicitly disclose the step of configuring one of said paths between said source node and said one or more destination nodes in

response to the determined status (claims 3, 19); wherein the step of configuring includes avoiding paths through dead links between nodes or paths connecting to unresponsive destination nodes (claim 8).

However, in the same field of endeavor, Ogier discloses in figure 5 wherein if a link (B-D) failed, node A configured one of the paths between the source node (B) and one or more destination nodes (D, F) by selecting node C as new parent for nodes (D, F), see 0153-0154, corresponding to (claims 3, 8, 19). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Ogier's teaching of configuring alternative path to Powers' system to avoid interruption and delays in transmitting with the motivation being to effectively route messages through such dynamically changing network.

Regarding claims 5, 16,

Powers further discloses wherein the return message is an echo message generated in response to the test message (fig.3, step 210, wherein loopback

the test cell as return message-emphasis added).

Regarding claim 7,

Powers further discloses the step of updating a routing table in response to the determined status (fig.3, steps 230 & 245).

Regarding claim 9,

Powers further discloses wherein determining the status includes the steps of: waiting a pre-determined period of time for the return message from a destination node (fig.3, step 220), and if the status of the destination node has changed, the source node updating a local adjacency status table (fig.3, steps 230 & 245). Powers does not explicitly disclose propagating an updated routing table to other nodes on the segmented network.

However, in the same field of endeavor, Ogier discloses source node unicastly/broadcastly informing the neighbor nodes the current link state of the network topology, see 0053-0055 & 0113. Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Ogier's

teaching of detecting, updating, and reporting up and down status of each outgoing link to neighbor nodes to Powers' system to updating the existing link state to neighbor nodes with the motivation being to detect the appearance and disappearance of new neighbor nodes in establishing and maintaining connections between nodes (destinations) and server (source).

Regarding claims 11, 13,

Powers further discloses wherein the test message is transmitted approximately once per second (see 0025 wherein test message is transmitted one at a time).

Regarding claims 6 and 14,

Powers does not explicitly disclose the source and destination nodes are selected from the group of a host, a router, and a load balancer.

However, it would have been obvious to an artisan to implement the Powers's teaching to different networks having nodes/devices/systems such as host, router, load balancer,..., .etc., to determine status of virtual channels and

to avoid sending data on a fault path/channel. This is a common practice in the art.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powers in view of Ogier as applied to claim 1 above, and further in view of Ootake (JP401101751A).

Regarding claim 4, Powers discloses all the claimed limitations, except (1) wherein the test message is an LLC type 1 frame format.

However, in the same field of endeavor, Ootake (JP401101751A) discloses transmitting a test command LLC type 1, see constitution part of the translation, corresponding to (1). Therefore, it would have been obvious to an artisan to apply Ootake's teaching to Powers's system with the motivation being to allow test equipment to communicate each terminal equipment thereby simplifying the constitution of the bridge.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powers in view of Ogier as applied to claim 1 above, and further in view of Stewart (4,745,593).

Regarding claim 10, Powers discloses all the claimed limitations, except (1) wherein said test message is not sent within the same segment.

However, in the same field of endeavor, Stewart (4,745,593) discloses sending a single test to detect faults and to localize faults between network nodes (abstract & see col.1, lines 58-63). Therefore, it would have been obvious to an artisan to apply Stewart's teaching to Powers's system with the motivation being to allow repair or replacement of defective equipment and to allow rapid packet routing adjustments to be made within the network.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONGCHAU BA NGUYEN whose telephone number is (571)272-3148. The examiner can normally be reached on Monday-Friday from 9:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PHUONGCHAU BA NGUYEN/
Examiner, Art Unit 2416

/Ricky Ngo/
Supervisory Patent Examiner,
Art Unit 2416